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## PEEL HALL, NEAR WORSLEY,

LANCASHIRE.

*(With an Engraving.)*

Here is one of those ancient rural retreats in which the forefathers of our more humble nobility were content to seclude themselves before the spirit of improvement had called into existence the gorgeous palaces that are scattered throughout the fairest portions of the country. Rambling past Worsley, in whose vicinity the munificent Lord Francis Egerton is rearing a mansion truly worthy of the inheritors of the Bridgewater Estate, you reach the quiet village of Little Hulton, and strolling up its single thoroughfare,—at every door in which more than one head will protrude to gaze on the stranger who has ventured so far from the precincts of polished society—you arrive at the village inn, which abuts so closely on the grounds of Peel Hall, that the sign-board, pendant at its gable end, throws its shadow down the carriage drive that leads to the house. Every thing around you wears an air of that homely comfort that looks beyond ostentation—no protective lodge, "with surly porter at its gate," arrests your progress—no winding umbrageous avenue opens up before you—an unpretending gravelled walk, skirted by hedge-rows, and shaded by trees, scattered far and wide, conducts to the front of this time-honoured abode. A spirit of rural serenity reigns o'er the spot—the melody of birds, and the "mysterious murmurs that stir the air," are unbroken by the sound of carriages, the tramp of horses, or the bustle of menials,—the green grass luxuriates in its court-yards, and the fond ivy clings to its walls; and were it not for the curling smoke that rises from the silent mansion, one might feel and believe that no human being dwelt near. And this is one of the favourite residences of an English Baron—one of the chosen seats of the venerable Lord Kenyon. As we lingered around the spot, and recalled to our minds the scenes enacted without the residences of royalty—the commotion of arrivals and departures—the whirl of equipages—the tumult of discordant voices—and the obtrusiveness of enthusiastic mobs—and contrasted these with the undisturbed retirement and domestic seclusion which could here be enjoyed, we imbibed a sympathy for him who could select a nook so calm and hidden for his abode, feeling, with Cowper, that "'Tis sweet through the loop-holes of retreat to look at the great Babel, and not feel the crowd."

The Kenyons, of Peel, are a family of considerable antiquity in the county of Lancashire, although it was not until 1784 that the title of a baronetcy was conferred on any one of the branches, which distinction was followed by the creation of Baron in 1788. These honours were granted to the late Lloyd Lord Kenyon, Baron of Gredington, in Flintshire, who was appointed Attorney General in 1782, Master of the Rolls in 1784, and on the retirement of Lord Mansfield, was nominated to the high

office of Lord Chief Justice of the King's Bench. His son, George Lord Kenyon, succeeded to the title and estates, in 1802, and has now the honour of being a Bencher of the Middle Temple, F.S.A. and D.C.L. He is in his sixty-seventh year.

Peel Hall, which might have formed a picturesque object in the landscape, were it not for a range of out-houses in front, which excludes it from the distant view, and gives the seat the aspect of a scattered farm-stead, presents an irregular structure of the Elizabethan style, and with the exception of its gateway, is entirely composed of wood and plaster. Viewed from the court-yard its effect is not displeasing—the darkened ribs of timber, relieved by the intervening whitened spaces, (a feature common to houses of its age and character) producing a variety on which the eye delights to rest. The two wings, which adjut from the main building, form an interior court, across which a paved walk leads to the house. Over the wooden door in the stone gatehouse, is cut, in rude characters, an inscription inculcating a temper without which no domestic comfort can reign, "Peace within these Walls, Geo. Rigby, 1637." The Rigbyes, a branch of the De Rigbys, inherited the place for a short period. George Rigby, Esq., Clerk of the Peace for the county of Lancaster, married one of the daughters of William Hulton, of Hulton Park, and rebuilt Peel Hall about the year 1630, a date which occurs on several parts of the house. Roger Kenyon obtained the estate in 1657, by marriage with Alice Rigby. This George represented the borough of Clitheroe in the Parliament of 1690, and was succeeded by several George Kenyons of Peel—hence the name of Rigby appearing in connexion with the inscription.

The interior of the hall offers few objects of interest, either to the antiquarian or the lover of the fine arts; and although there are no traces visible of extensive alterations having taken place since its erection, it differs little in appearance from the better class of farm-houses of its own date. It possesses two separate stair-cases, and is divided into upwards of forty apartments, which are only remarkable for the awkwardness of their access, and the absence in them of all ornament. In the entrance hall, which is wainscotted with oak, and furnished with a stone floor, are several Lancashire armorial bearings in stained glass—a large leathern shield, bearing a number of figures in high relief, and evidently of great antiquity. A smaller instrument of defence is also shown, round which is inscribed an axiom, the truth of which it were well if all nations would exhibit—"Wisdom, faith, and prowess support kingdoms." In the principal stair-case, are hung a number of family portraits, in frames which speak, by contrast, of the perfection now attained in this branch of the fine arts—these bear the names and titles of the respective individuals represented—an arrangement which it would be most desirable for those to follow who liberally throw open their collections of paintings to the public, inasmuch as there appears to us nothing at once more perplexing and uninteresting than to gaze "with vacant stare" on subjects which cannot speak for themselves, and have no interpreter. In many of the halls which we have had the pleasure of visiting, we have more than once had cause to deplore the ignorance of our Ciceronés, and the difficulty of gaining information regarding paintings and painters; and although we admit that from some catalogues of public exhibitions we frequently gather little more than we could have inferred, as when we read that we are examining the "portrait of a lady," or are made aware that we are beholding the likeness of "a gentleman," yet there is a certain undefinable satisfaction in learning that all portraits are not ideal, and that all subjects are not conceptions. In the principal stair-case may be seen a fine full-length portrait of Charles II., and the window, elaborately filled with stained glass, exhibits a singular series of representations of monkeys, dromedaries, and fighting cocks, intermingled with armorial bearings, and the motto, oft repeated, "*Deus est auditor meus.*" The upper apartments comprise the usual suit, but they are so numerous, and consequently so narrow and contracted, that we were inclined to believe our forefathers had been ignorant of the mathematical plan of building roofs, and had erected as many divisions as they conceived were necessary to support the superstructure. Throughout the hall the most marked plainness in the furniture is apparent—comfort prevails over *show*—and although nothing appears wanting, there is no superfluity—a well-stored library and convenient study,—and that solitude, which is not to be found in cities or at court, are, perhaps, to Lord Kenyon, the principal attractions of Peel Hall; for in the decline of his years, when fashion and gaiety have ceased to gratify, the cultivation of the mind and of the heart yield a satisfaction which the world "wotteth not of."

The gardens and grounds in the neighbourhood of the Hall possess considerable interest. An elevated point in the vicinity commands a delightful landscape, variegated with endless beauties; "from hence," says Barritt, "you behold the *trackless bog* of Chat Moss, rich corn fields, fine meadows, brown woods, Atherton Park, the town of Leigh and neighbouring villages, and the distant hills of

Cheshire." Since the days of Barritt, however, a change of some consequence has occurred in that part of the country, as those who have "steamed their way" across the "trackless bog of Chat Moss" can amply testify.

## TIME'S TELESCOPE—OLD LETTERS.

*Old Letters!* There ye lie, rich in memorials of a bygone time. What deep chords in our heart vibrate at each perusal of these tattered fragments of epistolary communication! How the thoughts gush back, like a stemmed torrent, to the writers of such letters! How many a hand that traced these words is now crumbling in the dust, and how many an eye that watched the formation of these sentences is now cold and lustreless! Relics of youth and happiness, we would not part with ye for worlds!

An old letter, like an old friend, is valuable from its very antiquity. An epistle received yesterday is liable to be cast on one side as soon as read, but an old letter re-perused brings back the feelings and reflections with which we were animated when it first fell into our possession. It forms a kind of epistolary railroad that brings us at once back to juvenility, and restores to us the scenes and images of the past. Here is one from Eliz ——. Well, no matter about the name, but here it is. What a sweet crowquill hand she wrote! Its purport is to remind us of an appointment that we made for that evening, and well we remember counting the tardy hours that lazily crept by till our interview, and then, indeed, they flew *too* fast. In what florid protestations of eternal constancy did we not indulge, and how eagerly did we await the responses from her own sweet lips. Never did two lovers worship each other more ardently, or bend more devoutly before the shrine of Cupid, than we did, and yet circumstances conspired to separate us after all! It was but a few days ago we saw her—no longer the slender bewitching form we once knew, but expanded into a portly matron, on the umbrageous side of forty, with —spirit of romance, hear it not!—a triad of chubby children, boasting the most unsentimental rosy cheeks, calling her "mother." We smiled at our bygone fantasy, and at that moment could not help feeling that it was perhaps as well our early aspirations had not been realized.

So! what have we here? "The Misses —— present their compliments to Mr. ——, and would feel gratified by his presence at their evening party, on Thursday the 14th instant." And go we did, and the gratification doubtless followed as a matter of course. With a cataract of blue satin falling into the confines of a diamond pattern valencia waistcoat, we hazarded our entry into the ball-room. Young ladies smirked and young gentlemen smiled; quadrilles and waltzes were the order of the night, and it was our happiness to have one of the most exquisite *belles* in the room for our partner, —when—how can we relate the horrible catastrophe that ensued—in the midst of a minuet, when we had made up our mind to be all grace and elegance, the centre of gravity in our dexter-locomotive was displaced, and we fell, a heap of awkward humanity, to the chalked floor. Never was a defeat more decisive; the shock was irrecoverable. Angelina, our partner—Heavens! when will cruelty in woman cease to exist—laughed outright at our misfortune, and a gentle titter ran the round of the whole assembly. We dived about, first for a chair and then for our cambric handkerchief, but the evolutions were of no avail, and bashfulness compelled us to retreat soon after. From that time we forswore balls in general, and minuets in particular. But here is a modest-looking three-cornered epistle that, we dare be sworn, recalls none of these self-love-abating reminiscences. How strongly is it still impregnated with the odour of musk, how ingeniously has this paper convolution been effected, how exquisitely feminine the superscription! We would wager a trifle now before we trust ourselves to open it that it is a *billet-doux*, teeming with love and poetry, from some one of those fair and fragile beings that flitted through our dreams in loverhood. Now for the proof, though our hand trembles with a return of former ecstasy as we withdraw the fairy missive from its abiding place. Faugh! it is our washerwoman's bill for an unpaid three and eightpence.

What a heap of communications lie here together! It is the very *chaos* of the world of letters, in which it would require all the geological researches of a Buckland, to discover that anything like primitive order existed. Postponed settlements of tailor's bills, most ingloriously intermixed with letters from Louisa and *billets* from Betsy: ill-used orders to tradespeople, in unbusiness-like contact with orders from theatrical managers; and entreaties to call, oppositely blended with memoranda to stop away,—are all jumbled together into one heterogeneous mass. Here is a request from Hal. Chiverton, our former inseparable companion, to join him in a shooting excursion through the fens of Lincolnshire, and the wilds of Warwickshire, with a promise of certain game, and a prospect of uncertain gratifi-

cation. Our name, however, was amongst the five pound annual subscribers to an incipient "animal's friend society," and we, on principle, declined the invite. Poor Chiverton, after running through other people's property, besides his own, was soon after compelled to go through an ordeal called the "Insolvent Court," where we believe he would have had us for a companion, if he could, and he who was once the gayest of the gay, is now a shunned, neglected being, banished from the pale of polite society, and living an outcast and an exile from the very places where he was once so admired and courted. His history is a moral from which many might learn a useful lesson.

People have strange fancies, and one of the strangest, though not one of the worst of these, is that of a friend of ours, who has papered his parlours with penny-postage stamps that have gone through the post. We cannot say that we approve highly of that regicidal propensity that devotes the Queen's head to such ignoble purposes, but at the same time we cannot but admire the feeling that prompted the idea in the first instance. By what a world of thought is such a one surrounded; in what an atmosphere of reflection does such a one exist! Here are indications of the exercise of nearly all the human passions that stir the mind of man. Each emotion enclosed within an envelope, like Ariel prisoned in the gnarled oak, till the bursting of the seal sets both at liberty. Think not of the gold-laced gentry who play the Mercuries to these missives—forget the clumsy adhesive stamp, and even let the protective P. P. be buried in oblivion; but instead, fancy some troop of ethereal messengers wafting the thoughts of this earth's inhabitants from "Indus to the pole," and then revel in the enlarged sphere of imagination thus opened. What an uncared-for, unappreciated boon to the public is this universal penny post after all!

Heigho! our eyes wax dimmer than their wont in gazing on these olden relics, and every date of thirty years back recalls to our mind the conviction of a fresh memento of mortality in the presence of another grey hair. We will no more of these flowers of melancholy that have sprung up so profusely in our heart during the last half hour, as to make us almost believe them weeds. Let us to a more cheerful source for reflection, and in the hope thereof, for a while bid adieu even to our "OLD LETTERS."

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*Eloquence.*—Great is the power of eloquence; but never is it so great as when it pleads along with nature, and the culprit is a child strayed from his duty, and returned to it again with tears.—*Sterne's Sermons.*

## ON THE LUMINOSITY OF ANIMALS.

BY JAMES H. FENNELL,

Author of "*A Natural History of Quadrupeds*," *&c.*

[Concluded from page 169.]

The eyes of the goat moth (*Cossus ligniperda*), of the grey dagger moth (*Acronycta Psi*), of the burnished brass moth (*Plusia chrysitis*), of the gamma moth (*P. Gamma*), of the dark arches moth (*Xylophasia polyodon*), and of the golden-tailed moth (*Porthesia chrysorrhœa*) shine in the dark with considerable brilliancy when flying, or about to fly. Sometimes the eyes will suddenly cease to shine, thus affording a proof that their luminosity depends on the will of the moths. It may fairly be presumed that this power of converging the few rays of nocturnal light enables them to see their way clearly, at a time when the vision of diurnal creatures is of little or no avail.

*Le Bulletin de la Societie Imperiale des Naturalistes de Moscou*, (tome I. 1829), contains a description of a luminous caterpillar, apparently that of *Noctua occulta*, a species of moth. It is there described as being one inch and a half long, one line and a half broad, and as having fourteen feet; a reddish brown stripe along the back, and two of the same colour along its yellowish green sides; and a yellowish green abdomen. M. Gimmerthal found this caterpillar near Riga, upon a plant, at nine o'clock at night, when it seemed entirely covered with a bright phosphorescent flame. The head and legs were equally luminous, the brown spots of the former part, and the rays of the body, only, appearing somewhat obscure. When placed on a printed leaf, the light was sufficient to permit the adjoining lines to be distinctly read. It was preserved alive for eight days, during the last four of which the light became less intense. On September the 5th it began to dry, but still preserved a little phosphorescence, which at this period became stronger by friction. Two days after this the process of drying was complete, and the light disappeared.

The electric centipede (*Scolopendra electrica*) is another luminous insect, by no means uncommon in England, though its light is seldom observed, in consequence of its dwelling in subterranean holes, from which it is seldom roused during the night. Sometimes, however, at dusk, it is seen crawling over footpaths or about out-houses, and leaving, as it proceeds, a track of phosphoric matter on the surface. This luminous deposit may be easily collected or lifted from the ground, but it disappears, probably by evaporation, too soon to allow of chemical analysis. One evening in September 1832, a gentleman noticed a luminous appearance covering a space of six or seven inches in

his garden. On further observation, he found a beetle rapidly moving about in the midst of it, and seemingly greatly bewildered. At the same time an electric centipede was slowly but gracefully moving about close by. In all probability the beetle had attacked the centipede, which had emitted this unusual quantity of luminous matter,—possibly designed by nature to serve, amongst other uses, as a protection from its enemies. In the autumn of 1838, seven or eight patches of very brilliant light were observed on the floor of an outhouse at Gould's Green, Hillingdon, Middlesex, and on closer examination, a beetle was found with an electric centipede in his jaws, and wherever he dragged his prey, luminous traces followed. Both insects were caught and put into a tumbler, and in the course of an hour the beetle devoured the centipede, and thus put out the light entirely. The rove beetle *(Goerius olens)* has been seen in a luminous state by Mr. Denson, probably from its having attacked an electric centipede.

If pieces of *Corallina officinalis* be held close to the flame of a candle, they will emit a very beautiful white light. Coral, the produce of marine animals, contains phosphate of lime, and this phenomenon appears to be a beautiful practical illustration of the hydro-oxygen light; the hydrogen being evolved by the candle, and the oxygen contained in the coral and in the surrounding atmosphere, being decomposed, a sufficient quantity of each is emitted to unite in the proportions necessary to form this light, which is very brilliant and easily produced.

In the immense waters of the deep animal life is very profusely distributed, and, particularly, gelatinous worms are so numerous as to be-star the surface of the ocean and transform it into a sea of flames,—"a spectacle," says Baron Humboldt, "which stamped upon my memory an ineffaceable impression, and always excited fresh astonishment, although it was renewed every night for months together. It may be seen in every zone; but those who have not witnessed it within the tropics, and above all upon the main ocean, can form but a very imperfect conception of the grandeur of the phenomenon; particularly if the spectator places himself in the shrouds of a ship of the line, during a fresh breeze, when she ploughs through the crest of the waves, and at every roll her side is raised out of the water enveloped with ruddy flames, which stream like lightning from the keel, and flash towards the surface of the sea. At other times, the dolphins, while sporting in the waters, trace out sparkling furrows in the midst of the waves.

"Le Géntile and the elder Forster explained the phenomena of these flames, by the electric friction of the waves against the hull of a ship as it advances. But according to our present knowledge of physical causes, this explanation is inadmissible. There are few points of natural history which have been so long and so much disputed, as the illumination of the sea. All that is known with any certainty, may be reduced to the following facts:—there are several shining mollusca which, during their life, emit at pleasure a phosphoric light, which is rather pale and generally of a blueish colour; this is observed in the *Nereis noctiluca*, *the Medusa pelagica* (variety B), and in the *Monophora noctiluca*, which M. Bory St. Vincent discovered during the expedition of Captain Baudin. The microscopic animals which Forster saw swimming in innumerable multitudes on the sea, near the Cape of Good Hope, are of this number, and still undefined. The luminosity of the sea is, sometimes, occasioned by these living lights; I say sometimes, as more frequently, although the animals increase in size, none can be perceived in the luminous water; yet whenever the waves strike against a hard substance and disperse in foam, particularly where the sea is greatly agitated, we perceive a gleam of light similar to lightning. The source of this phenomenon is probably of decomposed fibres of the dead mollusca, which abound in the depths of the sea; when this luminous water is strained through cloth of a close texture, these fibres are sometimes separated in the form of luminous dots. When we bathed at night in the gulf of Cariaco, near Cumana, some parts of our bodies remained luminous after coming out of the water, the luminous fibres attaching themselves to the skin. From the immense quantity of mollusca dispersed in all the seas of the torrid zone, it is not astonishing that the sea should emit light, although we cannot extract from it organic matter. The infinite division of the dead bodies of *Dagysæ* and *Medusæ*, may lead us to consider the entire sea as a gelatinous fluid, which consequently is luminous, has a nauseous taste, is unfit to be drunk by man, but is nourishing to many fish. If a board be rubbed with a part of the *Medusa hyoscella*, the part rubbed becomes again luminous whenever a dry finger is passed over it. During my voyage from the south to America, I sometimes placed a Medusa on a pewter plate. If I struck the plate with other metal, the least vibration of the pewter was sufficient to make the animal shine. Now, I may ask, how did the shock and vibration act in this case? Did they immediately raise the temperature? Did they discover new surfaces? or, did the shock elicit the phosphoric hydrogen gas, which, coming in contact with the oxygen of the atmosphere,

or of the sea water, caused this appearance? The effect of a shock, which excites light, is most astonishing in a troubled sea, when the waves dash against each other in all directions. Between the tropics, I have seen the sea luminous in all temperatures; but it was more so on the approach of a tempest, or when the sky was lowering, stormy, or obscured. Cold and heat seem to have little influence on this phenomenon; for, on the sand-banks of Newfoundland, the phosphorescence is often very strong in the most rigorous period of winter. Sometimes, all circumstances being apparently equal, the phosphorescence is considerable during one night and scarcely visible the night following. Does the atmosphere favour the escape of light, or this combustion of phosphoric hydrogen? or do these differences depend on chance, which conducts the navigator into a sea more or less filled with the gelatine of mollusca? Perhaps these shining animalcules come to the surface of the sea only when the atmosphere is in a certain state. M. Bory St. Vincent asks, with apparent reason, why our swampy fresh waters, filled with *Polypi*, are not luminous? It would seem that a peculiar mixture of organic particles is necessary to favour the production of light; the wood of the willow is more frequently phosphorescent than that of the oak. In England, they have succeeded in rendering salted water luminous, by throwing into it the brine of herrings. On most other points, galvanic experiments prove, that the luminous state of living animals depends on the irritation of the nerves. I have seen a dying fire-fly (of the species *Elater noctilucus*,) emit a strong light when I touched its anterior extremities with pewter or silver." (Humboldt's *Tableau de la Nature*, tome ii. p. 9.) The same distinguished traveller says, in his *Narrative*, when noticing the opaline coloured mollusca, that when he had passed the latitude of 36° he entered the Azores, in which the whole sea was covered with a prodigous quantity of them. The vessel was almost becalmed, but the mollusca advanced towards the south east with a rapidity equal to four times that of the current, and continued to pass for three quarters of an hour. Here he recognized three species, the *Medusa aurita* of Baster, the *M. pelagica* of Bosc, and a third which somewhat resembled the little-man-of-war (*Medusa hyoscella*), distinguished by its yellow brown colour, and its tentacula longer than its body. They are one of the sources of the phosphorescence of the ocean; and Humboldt found that they emitted light when shaken. Placed on a tin plate, the vibration of the tin when struck was sufficient to make the irritated animals shine.

In the *Field Naturalist's Magazine*, (vol. I. p. 549), Mr. L. W. Clarke describes a remarkable luminous appearance of the sea, observed by him in coasting along the outside of the harbour of Bombay on the sixth of June, 1834. "The whole ocean around us," says he, "was a mixture of flowing molten gold. The soft balmy breeze propelled us forward at about five knots an hour; the night was warm; the moon was hid beneath a dark cloud, but a countless host of stars shone with all their radiance, brilliantly sparkling, seeming to allure the eye from gazing on the splendour of the rolling waves, to behold their humbler beauties. Instead of the pale phosphoric light that danced before the prow of the vessel, in those tiny stars pillowed on the foam of the ocean, this had all the richness of metallic lustre. At different periods of the voyage, about nine or ten at night, several of us were accustomed to go to the prow of the vessel, and bathe ourselves, when the weather permitted, by drawing water up in buckets, and throwing it over each other; the sparks of liquid fire would attach themselves to the skin, and in an instant their light was extinguished, unless occasionally, in applying the towel, a few solitary ones seemed to be re-ignited. A circumstance occurred in this practice that led me to consider the cause, not as a phosphoric matter contained in the water, as some have conjectured, but a living creature; for though at first, when using soap, these sparks were elicited, yet so soon as anything like a diffusion of it was obtained, all was dark. The same invariably occurred in washing ourselves in tubs, or other vessels; the alkali in every instance depriving the creature of its life." Dr. William Baird, remarks, in the *Magazine of Natural History*, (vol. IV. 1831, p. 476) that he has invariably found that if the little-man-of-war (*Medusa hyoscella*) was seen plentifully during the day, the sea was brilliantly illuminated at night. In the same valuable scientific journal, (new series, vol. I. 1837, p. 599) Mr. J. B. Peacock says that the light blue, purple, and pink tints possessed by the *Physalia* soon fade after being removed from the water.

The luminous, or phosphoric property, is particularly remarkable in the smaller species of Chetopoda, or those red-blooded worms which move by means of *setæ*, or bristles. One of this class is the *Nereis noctiluca* of Linnæus, a well known example of luminosity. M. Viviani has noticed another species among the small animals to which he attributes the phosphorescence of the sea of Genoa. Mr. Robert Garner tried to ascertain if the phosphorescence was owing to the vibration of their

cilia. In a red blooded worm, perhaps, the *Nereis noctiluca*, which exhibits this phenomenon very beautifully, covering, in great numbers, the fishermen's nets when drawn up from the sea, he found that the luminosity vanished when the action of the cilia ceased; that it was most vivid when they were most active; and that the tremulousness and unsteadiness occasionally accompanying the phosphorescence, appeared to correspond with an occasional interruption in the vibration of the cilia. He would infer from this concurrence, that the two actions are always concomitant, but he knows of no further proof that the one is the cause of the other. The observations of Beccaria, and some others, also tend to prove that the existence of this phosphoric light depends on such states of the animal as occasion the vibration of its cilia, and that it is not caused by any chemical principle. That the luminosity arises from electric causes seems most likely, as some of the *Medusæ* impart a rather powerful shock, or benumbing pain, to the person who comes in close contact with them. Mr. W. H. B. Webster, in his interesting *Narrative of the Voyage of the Chanticleer*, (1834, vol. I. p. 19) relates that, on the twenty-third of May, the surface of the South Atlantic Ocean was observed to be covered apparently with dust, or the shakings of hemp, but which was found to be, in fact, a multitude of very small marine worms, extremely slender and delicate, and about the hundredth part of an inch in length, of a brown colour in general, and acuminated at each extremity, having also a slight bending motion at times. The waters also contained a few hairy globules, about the size of a pin's head, which opened and contracted, having a bright glistening speck in the centre. There were, likewise, some little red capillary worms, bifurcated at one extremity, and some *Medusæ* of a chocolate colour, about the size of a pea. It is a pity that Mr. Webster has not told us whether or not the glistening speck was visible when the hairy globular animal was contracted; and again, whether or not the opening of it could be effected by agitating the water. Presuming, however, that the luminous specks were only visible when the animals opened; and presuming, also, the opening to have been caused by the agitation of the water affecting them, we may infer that these living hairy globules are the immediate cause of that peculiar kind of oceanic luminosity, which presents evanescent sparks as the waves dash against a vessel's prow.

On the night of May 30, Mr. Webster was much gratified by a phenomenon still more interesting. At about ten o'clock at night, when the vessel was sailing at the rate of five knots, the weather clear, and the stars shining brightly above them, the attention of the voyagers was suddenly attracted by a great number of dolphins sporting round the ship, and darting about in all directions with the swiftness of an arrow. The water was extremely brilliant, and appeared to be a sea of stars, so numerous were the specks of light. But beautiful as was this appearance, which they had witnessed on former occasions, their attention was principally directed to the dolphins, whose whole form and gambols were distinctly visible at a considerable depth below the water's surface, owing to the bright light in their native element. A train of vivid light, not unlike the fiery tail of a rocket, but more continuous, suddenly appeared, and showed the dolphins to be in pursuit of prey.

In the same *Narrative*, (p. 126) Mr. Webster states that, early in December, the water in the harbour at Staten Island, situate near the extreme southern point of South America, was covered with *Medusæ*, and on the following night a most brilliant illumination of the water ensued. On the external convex side of those Medusæ which Mr. Webster examined, were eight longitudinal rows of small imbricated processes, slightly curved, and acting as a series of little flippers, for they had the power of rapid motion, and appeared like the delicate cogs of a small wheel. When desirous of moving, several, or all, of these flippers were put in motion, and enabled the animal to proceed with great rapidity; the motion of the flippers imparting to them a succession of beautiful colours, green, gold, rose colour, crimson, blue, and purple. The moment the motion ceased, the colours were no longer perceptible. Mr. Bennett attributes the luminosity of the sea not only to the molluscæ, medusæ, &c., but to various fish, having particularly observed a luminous appearance in an osseous fish about ten inches in length, belonging to the order *Abdominales*. He also caught a shark about a foot and a half long, which was very luminous, particularly on the back, and most vivid when it struggled. The permanence of the light showed that it belonged to the fish, and it continued till death, but not after that event, which happened in three hours after its capture. It was conjectured by Mr. Bennett that this light is intended by the Creator to enable this and other marine animals to catch their prey.

Dr. George Johnston says that *Dianœa Bairda*, a species of sea jelly, or medusa, emits a copious light of a whitish colour when the water in which it swims is agitated, or when it comes in contact with foreign bodies. In the possession of this property, it resembles

the *D. hemisphœrica* described and figured by Dr. Macartney in the *Philosophical Transactions* (1810, p. 267), but differs otherwise in too many particulars to allow of its being regarded as the same species. The late Rev. L. Guilding relates that, while sailing in the more shallow parts of the Caribbean Sea, and looking over the vessel's side when becalmed in these dangerous waters, in the midst of reefs, he has seen at the bottom huge molluscous or radiate animals emitting the splendour of a lamp, but could never ascertain the species. Borlase tells us that the fishermen believe that when the luminosity of the sea is vivid, it presages a storm.

Much more might be added on this very interesting marine spectacle, but having now specified at some length the several different examples of animal luminosity, and in a form, we hope, calculated to instruct, if not amuse, by presenting the advantage of a classification and connection, it is time to conclude this series of articles.

## LONDON REMINISCENCES.

### NOTIONS ON HUMAN PERFECTIBILITY.

In olden times, a philosopher might weave a cosmogony out of his own brain, and write a theory of the earth, or a system of geology, without ever stirring from his fireside; and more lately, ascetic studios, shutting themselves up in their libraries, have endeavoured there to divine the question of human perfectibility. I must frankly confess myself to have been one of these blunderers; but after studying Bacon's inductive philosophy, in which he teaches us to observe facts before we frame theories, I thought it would not be a bad plan to see and know something of mankind before undertaking to write concerning them. Ever since these first illuminings of philosophy, I have become an assiduous observer of the many strange phenomena of society—its upward, or downward, or sideway movements—and the ever-varying condition of the atmosphere by which it is surrounded. At present there are many features of uncommon interest, which, in their turn, will engage attention; and as it is necessary for us to confine our observations to one at a time, I would venture to gratify the wondering reader, by revealing to him some of the prophetic glimmerings of that sun-shine of perceptibility which is now dawning upon the social horizon.

But it must be premised, that these notions on human perceptibility will not consist of rhodomontades on the mighty wonders of railways and steam-boats, nor of aspiratory ejaculations on our wide-spread commerce, our advances in art and science, or the annihilation of space, and the junction of the old and new worlds, by the gigantic span of our steam-puffing mammoths. I venture upon no hacknied admirements of these physical advances; my object is to pourtray men and manners—to inspire my countrymen with a higher opinion of their own capabilities, and of the still loftier powers of the rising generation, and the precocious development of their manly faculties.

"Auld Margery Scott," of Dunkeld notoriety, concludes the history of her eventful life by the moralizing reflection—

"I have an end of all perfection seen."

So far from sympathising with this worthy dame, I could rather have wished that the beginning of my earthly career had been postponed for some fifty years, so that I might have flourished in that age of perfection which Time is now ushering into the world.

It may still be within the reader's recollection that on a late "Ramble through the Streets," we happened—not literally, but speculatively—to stumble over one of those mimics of men called Charity-boys. As we discover fresh beauties in the works of genius as we become familiar with them—so, although from infancy I have been perfectly intimate with the countless tribes of charity-boys that are hopping about in every court and alley, yet, instead of becoming more common-place, they every day appear to me more whimsically interesting. Comus must surely have been in a merry drunken mood when he took it into his head to patch together these puerile oddities.

In connection with our question of human perfectibility, they are a most intricate conundrum. Shall we say that the boys of bygone times were not fit for school until they had attained manhood? If so, we must conclude that our modern boys have stepped alike into their fathers' breeches! Or shall we say that these manly habiliments had been provided with a view to the advancement of future ages, when boys should become men ere they were boys? To the last opinion I incline, from a persuasion that this state of things hath begun to happen in these our days.

It is not, however, merely the secluded and humble walks of life, but even the most elevated points of the mental, that are enriched and adorned with the premature blossomings of these saplings of humanity. We have heard of a Lord Bishop, in former times, snoozing in his cradle, and crying for "more teaty,"—and, but lately, of the "poor little innocent," his Lordship the Lieutenant, screaming away into fits because

"naughty nurse" would not give him more pap. And it is not unlikely, if perfectibility continue to progress in the same ratio, that we shall soon read in the "births" column, of babies coming into the world ready breeched and booted, and with cigars instead of silver spoons in their mouths.

And if we turn our eyes towards our educational and mental-training institutions, we will find them eminently adapted to foster and mature youthful genius. Our blunt and unaspiring fathers were content to be educated in common "boys' schools" or "boarding schools"; but Time, with his spunge, has long since sopped up every "school" in the Metropolis and its vicinity; and the little stiff, sturdy schoolmaster, with his cane and birch, has fled under the scowl of fashion, and sought refuge in the charity-school. There, like another Dionysius, he can gratify his hankering love of power, and revel in unrestrained tyranny; and there he and his youthful charge are deposited as living curiosities,—memorials of the past—for the edification of the mental antiquarian.

But these things have now passed away, and the rising youth may bless their hides that, though the schoolmaster is abroad, he has left his cane at home; for these churls of yore have descended to the tomb of the pedagogues, except those of more strong hearts, the most cruel of their race, who, desirous of following a profession congenial to their former habits, have converted themselves into tax-gatherers. Yes, all these things are of the past, and now elegant "establishments," conducted by silvery-tongued "preceptors" or "professors," rear their stately forms; and "young gentlemen" parade their classic halls, and contemplate the beauties of nature while wandering through the umbrageous groves of a quarter of an acre's wide expanse.

Nor is the pleasure of learning more remarkable than the ease in acquiring it; for a lad need only open his mouth, and you may feed him with knowledge as readily as you may fill a water-butt. Among the educational speculations of late years, none have excelled that recently set on foot, of "Eloquence for the Million;" for as eloquence is the art of expressing one's thoughts with perspicuity and elegance, Mr. Eloquence-teacher must needs be acquainted with the ideas that are floating within these million minds before he can instruct them in the proper mode of giving them birth. Or, perhaps, the pupil must first communicate the subject of his thoughts, and what he desires to express. Certes this would be a very easy mode of teaching an art, since it pre-supposes it to be already acquired. It may be simple enough to impart *elocution*, which consists of tone, posture, gesture, and ornament,—but these acquirements cannot be exercised unless a man have an easy and fluent command of words—unless he be first an eloquent speaker. Depend upon it, hungry *savant*, if you be one of the "million," and stutter, "hum and ha," and long to say something, without knowing how to say it—depend upon it, that Professor Eloquence, who is ignorant of what is passing within your mind, can never help you to get it out. The only means are to be found in practice, literary composition, conversation, and discussion.

To such an extreme point has educational gullibility now arrived, that Simon Smatter has it in contemplation to commence a very unique and comprehensive educational course of "Common sense for the Million." He has already drawn up a syllabus, and for this gigantic enterprise he is preparing himself by torturing, decimating, and recompounding the greater part of Aristotle's common-places and syllogisms—rumaging all the old books on logic, for the purpose of culling every sophism he can lay hold of—and withal ransacking his own brain for cogent reasons to convince the "million," that they have lost their senses, and that if they would recover them, they had better visit this modern Jonathan Wild. His success will no doubt depend upon the demand for his commodity, and his intellectual trade will thrive best where "common sense" is most wanting.

Lest there should be any doubt as to the astounding intellectuality of the present age, I shall offer some few astute observations in support thereof, and also of the opinion held by every true-born Englishman, that this our native land is intellectually superior to every nation of the world. In proportion as the powers of the mind become enlarged in their capacity, and energetic in their action, our sensual propensities famish for want of gratification, and the impulses of mere animal nature are counteracted by a high-soaring intellect. Now, there can be little doubt that when the race of John Bulls, sweated with their very greatness—when the big souls of Hudibrases and Falstaffs, of justices and aldermen, gloried in

"Fair round belly, with good capon lined—"

—there can be little doubt that in those times our animal nature had attained its *ne plus ultra*. But now-a-days the case is reversed, and instead of breeding prize men, we pride ourselves in rearing prize pigs and bulls; and there are now so few human cattle, that a member of the old English corporation is gazed upon as a *rara avis in terris*. In fact, we have become

quite an intellectual looking nation, and ere long will be as sallow-faced and lean-paunched as brother Jonathan, or as the little bantam that crows so fiercely on t'other side the water. But there is consolation in the belief that while the Yankee loses his corpulence from over-working himself, and the Frenchman from over-dancing, it is reserved for John Bull to fret, and think, and intellectualize himself out of his wonted dimensions, and to shrink into physical littleness, while he increases in mental greatness.

Perfectibility, indeed! Why, there is scarcely a boy who, as soon as he is breeched, does not believe himself as much a man as his father—and who, when bound 'prentice, cannot smoke, swear, and talk politics and theatricals. These sprouts of the commonality now look as fierce and grow as rapidly as pumpkins, so that the urchin who some six months ago was whimpering at having been "mucked" of his marbles, may now be heard indignantly demanding his political rights, and animating his fellow "chums" to rise *en masse* against tyranny, whether in school or state. Oh! this harvest moon of intellect is fast ripening all things into maturity and perfection; but I could almost wish that its mellowing beams might for a while be intercepted by some dark cloud, so that our man-boy generation of politicians might have time to fiz and hiss, and grow cool again.

In the proudest days of Rome—when she held tribute the nations of the earth—when wisdom prevailed in her councils, and high philosophy and stern patriotism in her senate-house—in those days, which have been hallowed by time, revered by the imagination, and immortalized by the historian—we would in vain seek a parallel to the transcendental intellectual advances of our more favoured land. Even in those times, the radiance of whose glory still throws a sacred charm upon the now benighted city of the Seven Hills, the germ of intellect might shoot forth in early life, but it was not matured until it had felt the glow of fifty summer suns. Wisdom then sought the alliance of old age—the hoary head and wrinkled brow graced the Council—and fifty years of mental life were consumed before the sons of the imperial city could aspire to the honour and dignity of senators. But now—in this country—in this age of advancing perfection, one may become a legislator before he has finished growing, and be entrusted with the care of the state before he can take care of himself. Oh! what tame order and dull gravity would pervade our houses of legislature if it were not for these precocious juveniles, who seem, like yeast, to be made to lighten the heavy lump. And when these witty witlings—these legislative coughers, barkers, and brayers, shall have run their earthly race, we may well lift up the voice of lamentation—"Where be your gibes, your jests, and all those merriments that were wont to set the house in a roar!"

Although my subject increases in interest as we progress, I must bring these lucubrations to a close, but not without regretting that hitherto no one should have thought fit to chronicle the new-born fame of the Metropolis, nor without expressing a hope that, now the mine is opened, there will be no lack of literary speculators. Oh! that some Ovid might arise to immortalize the remembrance of London's strange metamorphosis!—that some minstrel, revered as the bard of Fingal, might sound his harp and sing these songs of wonders! But they shall not be forgotten, nor unheard shall their praise pass away. Like the sun, who holds his course in the heavens, and shines from sphere to sphere, so shall the glory of our country be seen in regions far distant, and the voice of her fame be heard in the land of the stranger.

## METALS—THEIR COMPOUNDS AND USES.

### CHAPTER V.—TIN.

This metal claims with copper an old diluvian age; it was in high repute among Egyptian artificers, and was in common use long anterior to the time of Moses. The hieroglyphic walls of the tombs and pyramids, amidst the vast painted emblems and forms which they display, show to the wondering admirer of elder art the measures and vessels of this metal plainly indicated from those of silver by a less brilliant polish, less elaborate workmanship, and also by being placed not on the chief tables of a portraited banquet, but on those for the guests of low degree. The paintings of the Egyptians, fresh, beautiful, and glowing as if the artist's brush was yet scarcely dry, are more explanatory to the senses of the modern traveller, than is the mystic language written on and around the deathless works which decorate the palace walls of the forgotten dead. It was the custom of this remarkable people to follow for ages, in the same family, the same profession, father being succeeded by son in unbroken progression in his employment, and also for each profession to have its last resting place sacred to itself alone, this place of tombs being decorated by all the emblematic signs of their calling. The traveller, as he passes through these

caverns and sepulchral cities, can at once tell what labour engaged the sleeping occupants when Joseph went up through the land of Egypt and gathered those stores of corn by which he saved much people. Among these, the artificers in metal hold a prominent place; the variety and extent of their workmanship evidencing that these children of Ham had early explored the treasures of the earth, and mastered the secrets of the mine.

The Phœnicians, a race better known in Scripture as the Canaanites, dealt largely in tin. While the Egyptians shut their gates upon strangers, dealing with them as seldom as possible, the adventurous Canaanites made for themselves an empire on the sea, and not only instituted a traffic with the isles of the mighty deep, but traversed shores where man before had never trod. They scattered themselves from Cyprus to the isles of Hesperus, and evidences even now break upon our wonderment that they must have crossed the broad Atlantic, and planted those colonies in which the arts of elder Egypt and the system of Phœnician traffic were found by Pizarro and his "robber host of Spain." Certain it is, however, that these early teachers of the human mind visited the shores of England, and bartered the products of Africa with the inhabitants for its stores of tin; and when that brave and gallant people were rooted out by Joshua, their place in the markets of the world was supplied by their descendants of Tyre and Carthage; nor was the latter given to the sword by Nebuchadnezzar, nor the former laid in ashes by Alexander, until the advantages of commerce were spread abroad among the nations, and the value of Cornish tin appreciated wherever the use of metals was known.

The Greeks employed it as an alloy for all other metals, and from them the Romans acquired the knowledge where it was principally to be found. Whether the desire to possess the command of this metal was one of the motives of Roman invasion, is a question only for the scholastic disputant, but certain it is that the Latium conquerors were not long in England ere the mines of Cornwall and the potteries of Staffordshire were in active employment for their use, and the porcelain of the one, and the tin and copper of the other, were spread abroad through the gigantic empire of the conquerors of "the world as known to the ancients." At this early period the mixture of copper and tin was in high repute, and the old magnificence of Egypt again displayed to an awakening people; busts, statues, and medallions of bronze amply evidenced the progress of elegance and art, and the plentiful supply of the material gave promise to all future ages that the hand of the artificer should not relax in idleness.

Aristotle, the tutor of Alexander the Great, gives an account of the Cornish mines, and Diodorus Siculus, an author of reputation forty years before the Christian era, describes the mode of its digging, preparing, and manufacture—a mode almost precisely similar to that in operation at the present day. The first process to which the ore is submitted is that of pounding or grinding; it is then well washed to carry away the earthy particles, and afterwards roasted, by which the sulphur and arsenic combined with it are driven off. It is then submitted to the action of fire by fusion, and the more often it undergoes this process it becomes the more refined; although it loses weight by this repeated melting, becoming comparatively lighter than any other metal undergoing the like process, its value is in no way decreased, for the lighter the tin the purer its grain, and the higher its price. This tin, like gold seven times refined, is capable of being spread out into a leaf of remarkable thinness, yet so different are these metals in their tenacity, that a leaf of tin at its utmost point of reduction, is two hundred times thicker than one of gold. The process of tinning, or spreading molten tin on any foreign surface, is less laborious and more effectual than plating with the tin foil. This invention is ascribed by Pliny to the Gauls, who were certainly acquainted at a more early period than the Romans with the great and varied purposes to which iron could be applied. They tinned their iron vessels to prevent the destructive agency of rust, having discovered that tin adhered closely and firmly to a surface of iron when sheets of the latter are dipped into a molten reservoir of tin.

In its pure state tin is of a silvery colour, and capable of some slight polish; it is ductile and malleable, but is principally manufactured by fusion, like glass, and turned on a lathe, like wood. When bending it, a slight short crackling noise is emitted; it fuses sooner than any other metal, before it attains a red heat, and may be reduced into a fluid by the application of muriatic acid; nitric acid, aided by the dilutive action of water, converts it into an oxyde. In these latter states, like all other sulphates of metals, it is used in dyeing or painting, the ground of its colour being white.

Zinc and tin, which are readily combined when melted, form the compound called pewter. Lead and tin are the bases of the many metals which abound as imitation silver, the peculiar features of each depending, not only on the relative quantities of these two metals, but also on the proper admixture of the harder

metals. Thus three parts of tin and one of lead give the hardest compound; and the addition to these of a small portion of zinc, nickel, bismuth, or antimony, give the various products of German silver, Britannia metal, and block tin, each of which, according to the proportions of the compound, possesses qualities fitted for particular articles. A mixture of tin with mercury prepares that volatile metal for looking-glass plating, rendering it, as it were, more obedient to the hand of the artisan, and better fitted for its permanent adhesion to the glass.

Although tin is one of the oldest metals in connexion with the arts, its discovery in many places is entirely of modern date. It was not known to be a native of the Continent of Europe until the year 1241, a period remote indeed from that when it was so much in use in Greece, Italy, and Germany. It was discovered in Barbary in 1640, but there can be little doubt of its having been known there in the early period of the world's history, as the Egyptians would likely obtain their supplies from thence, it being well known that the inhabitants of Morocco were one of the few nations permitted to traffic on the Nile, to which they brought, in the days of Moses, vast portions of the leather for which that district of Africa has been so long and deservedly renowned. Tin was first known to be one of the many treasures of India in 1740; and in 1782 it was discovered in that portion of South America called New Spain. It is now brought in great quantities from that broad continent, perhaps the richest in the world in metallic ores, although it is hazardous to say where nature has most plentifully distributed her stores, for as discovery progresses, and the wants of man compel him to further research, treasures vast and illimitable burst upon his view. This wondrous commixture of materials, so near the surface of the earth, betokens, even more than the autumn products of the field, or the majestic grandeur of the forest, that a Creating Hand, incomprehensible in its might, had filled the earth to fulness ere he planted man thereon to behold its beauty and enjoy its wealth.

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### LEAD.

This is the softest of all metals, possessing scarcely any elastic power, being so easily bent and twisted. It also yields more readily to the hammer, and is ductile to an extent next to gold; its want of tenacity, however, makes it of little use either as wire or leaf. Its colour is a bluish grey, bright when first cut, but speedily becoming dim when exposed to the atmosphere. Next to tin, it requires the least degree of fire to melt it, that process being obtained at a heat equal to 612 degrees of the ordinary thermometer. Its general uses are well known, although its poisonous tendencies are too seldom guarded against. It is greatly used as a softener of the more obdurate metals, and is an alloy for those which are required to fuse at a less degree of heat than their natural gravity will permit. A mixture of mercury and lead, if pulverized in a mortar with bismuth, will become fluid, thus showing the power of chemistry in making a compound of three solid bodies into a permanent fluid. The natural chemical action of the earth conveys lead into crystals, giving them a yellow colour like the topaz, which is the most perfect natural gem, imbued with lead. The artificial stones, of a topaz colour, are manufactured from glass and a leaden solution.

When lead is in a molten state, it rapidly burns by the action of the fire, and floats on the top in a fine grey powder. This coloured matter, when raised to a higher degree of heat, and stirred with the mass below, becomes yellow, and, by a continuation of the process, assumes a bright red colour. This product is red led. The chemical material, called litharge, is the red led heated by a more vehement fire, by which it is made to run to an oily fluid, and then left to cool, when it becomes of a yellow or reddish colour, and forms a body composed of thin layers or plates, showing the process in which it has become crystallized. White lead is the carbonate of that metal, and is produced by submitting sheets of lead to the action of the acid, and then exposing them to the air until a white crust makes its appearance, which is scraped off in the same manner as verdigris from brass, and forms the material ground of all painters' colours. White lead is regarded as a chromac compound of all the colours, and, in common with all bodies presenting a white appearance, reflects all the colours in equal rays, by which no single one predominates. Black, on the other hand, is considered the absence of all colour, or rather the non-reflection of light by which colours are produced. Black lead, therefore, is a body which, from the materials that it is naturally compounded of, absorbs the light instead of reflecting it. This mineral is called the carbonate of iron, because it contains iron, carbon, and earthy particles, which combination renders it an imperfect metal. It is found principally in Cumberland, in loose pieces, remarkably fine in the grain, and very soft. By the intelligence of art it is used for the most dissimilar purposes: its most valuable manufacture is in pencils; its most durable, as a composition for crucibles, in which other me-

tallic bodies are fused; and its most extensive application is, as a polish and protection to household articles made of iron.

Although the black material (called plumbago, from *plumbum*, lead, and hence plumber, an artificer in lead,) has iron for an ingredient, it is not that, but the red body, which possesses, like calcined iron, the remarkable quality of resuming its original elements, and becoming again its native metal. While red lead and litharge have not the remotest appearance to the metal from which they have been extracted, by placing them over a fire, and adding thereto some iron filings, or some small pieces of charcoal, the mass will become mingled, and solid, substantial, and perfect lead will appear in the crucible.

Lead is soluble in acetic acid, and thus forms sugar of lead, which, with a number of other preparations from the same metal, is used medicinally, particularly in cases of the rupture of an interior blood-vessel. The accidental administration of lead into the body is the cause of colic, paralysis, tremors, and even contractions of the limbs. These disorders are of slow and gradual growth, and rarely give token of their dangerous tendency until the producing cause has been forgotten, if its minute infliction was ever presented to the mind. As almost all the acids act on lead, great care should be taken of the vessels made of that metal, and of their contents, as various liquors impregnate themselves with its destructive agency, while not a few unscrupulous compounders wickedly add lead to their liquids as a means to correct and soften their acid qualities. The presence of lead in these liquors may be tested by mixing with them a small portion of the sulphuret* of potash, which takes the lead down with it to the bottom, and forms a dark-brown precipitate, which even muriatic acid will not render soluble. Another method is, to expend the liquor by evaporation, and then to expose the dry sediment to a heat sufficient to melt lead; if any of the metal is present it will immediately show itself in its bodily metallic form.

* Sulphuret is a term denoting a less presence of sulphur than when that word is used, the other portions being either metallic, alkaline, or earthy. Sulphuric expresses a greater amount of sulphur than does the word sulphurous, and sulphate is a chemical salt formed with metal from the first, while sulphites are the product of the second. Thus the sulphate, the sulphite, and sulphuret of iron are different compounds—the latter is a common natural product, and is the pyrites of commerce, or firestone of the superstitious.

### NICKEL.

This hard metal is of a silver-like hue, greatly used in metallic compounds, and an important agent in the laboratory. It is never found in a pure state, but mixed with the ores of other metals. The body in which it was originally discovered, and from which it is still generally extracted, was the sulphuret of nickel, combined with iron, arsenic, and cobalt. This sulphuret is of a yellow colour, something like iron pyrites, and exceedingly brittle. The metal is also a principal ingredient in the meteoric stones which fall to the earth, and in them presents a combination of materials nowhere found upon our globe, although all these ingredients are separately components of the earth's crust. When nickel is placed in a close vessel, and reduced to a calcined state by fire, one portion of it falls to the bottom, of a delicate olive green tint, while another part of it ascends to the top of the vessel, and there, in a sublimated state, crystallizes into small shining plates of a golden hue. All the acids act upon nickel, but the most effective are nitric and nitro-muriatic; its solutions in all the acids are green, and its oxydes produce a faint but fadeless colour, like to that of the grass in spring. Another remarkable property of nickel is, that it is invariably attracted by the magnet, and the less of iron it contains, the greater is the attraction. This phenomenon is one of the mysteries yet unrevealed to the inquiries of science; it adds one more wonder to the product and properties of the metal itself, which, found in one combination in the earth, and in another when precipitated from the air, shows that there is a greater intimacy subsisting between the elements than we at present can explain — that the wondrous agent of electricity pervades all nature, and conveys through water, air, and fire, the more solid particles of earth, to fulfil some great and useful purpose in the higher regions, only to be sent back, when that purpose is fulfilled, to their parent source, there to minister to the wants of man, to expand the energies of his thought, and to teach him, great as is his amount of knowledge, that a nobler and wider range is still before him—that the veil of creation has yet to be lifted up, and the morning sunshine of perfection yet to gladden and delight the visions of his mind.

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*The road to knowledge is through the portal of doubts.*—When there is a great deal of smoke and no clear flame, it argues much moisture in the matter; yet it witnesseth certainly, that there is fire there. And therefore, dubious questioning is much better evidence than that senseless deadness which most take for believing. Men that know nothing in sciences, have no doubts.—*Coleridge.*

## NEW BOOKS.

*A Voice from the Town, and other Poems, by John Bolton Rogerson, author of Rhyme, Romance, and Revery, &c.* London: Miller, Newgate-street.

In this "*Voice from the Town*" we gladly recognise the familiar tones of an old and valued friend, and at once address ourselves to listen to his rich song, as, with head erect and step unshaken, he approaches, and boldly announces who and what he is, and where and among whom he has been sojourning. From these the poet deduces his warrant and qualification for the task he has undertaken — the delineation of the hopes and fears, the joys or sorrows, and the monotonous routine of occurrences which make up the sum of the life of an inhabitant of a large commercial city. This is certainly an uncouth and unpoetic theme, and yet the humblest son of toil, who resides in the lowest cellar or loftiest garret of a populous town, has his own little world of affections, cares, projects, successes and disappointments, friends and foes, employments and enjoyments, which alternately cheer or depress, excite or overwhelm the individual, just as the larger collections of men are swayed and agitated by events deemed worthier of the historian or poet's pen.

As a chronicler of the varied developments of the affections, Mr. Rogerson is eminently felicitous; without pretence or parade, he displays the results of close and searching observation on others, and delights to analyse and pourtray, as in a mirror, those of his own bosom. The communings of pure and gentle hearts in the spring tide of life,—the quiet and calm enjoyments of the domestic hearth,—and the rich pleasures of social intercourse with the wise and good, are the subjects most congenial to his mind; but it is after he has conducted us to these higher and holier regions, that we become fitted to sympathize with his lacerated feelings, as he indignantly denounces the tyranny of upstart purse-proud ignorance among the grovelling multitudes below,—or are qualified to share in his sensitive and penetrating dissection of the antagonist principles which war against the happiness of the masses of humanity congregated in a populous town. With the skill and firmness of a master hand, he uncovers and exhibits the festering sores which afflict the body politic, neither pandering to the vices of the poor, nor flattering those of the rich. Regardless alike of the nostrums of political quacks and claptrap demagogues, he demonstrates that intemperance, improvidence, and vice are suffered to sap the very foundations of our social pyramid, and by exhibiting these evils in their horrible magnitude to the public gaze, he has nobly essayed, with the thrilling power of outraged philanthropy, to dispel the gross and culpable ignorance which prevails as to the wretchedly despairing condition of the thousands of our countrymen who are huddled together in the crowded alleys and courts of large towns, and by a false and wicked pride, are almost utterly abandoned by all who are removed a few grades above them in the social scale.

The reminiscences of his early home admit us to the inmost recesses of the author's soul, and our liveliest sympathies are awakened whilst he pours forth the fresh and gushing tenderness of parental affection :—

> That fervent love, which neither time, nor space,
> Nor base ingratitude, nor guilty shame
> Can e'er subdue. All other ties may break—
> The love of woman fades at times away,
> And dieth even at a look or tone;
> Friends may depart like flies with summer-hours,
> When the dark winter of our lot comes on,
> But strong affection, in a parent's breast,
> Liveth for evermore, a changeless flower.
> One of my cherish'd flock lies buried low—
> Just as its little lips had learn'd to lisp,
> And call with fondest accents on my name—
> Just as it knew my step upon the floor,
> And gladness fill'd its eyes at my approach,
> The infant angel sought its native Heaven,
> And left its parent sorrowing for its loss:
> Its voice is unforgotten melody—it comes,
> Like notes of breeze-woke harp, upon mine ear,
> And, as a golden mist, its silken hair
> And radiant eyes sail 'twixt me and the sun.

After a farther brief exordium, in which we are presented with brief portraitures of the poet's friends—

> " —— who make existence sweet,
> And take the poison from life's bitter draughts,"

the first division of the poem closes, with a direct introduction to its subject—the Town:—

> The iron tongues of time have long peal'd forth
> The mid-hour of the night—with sullen sound
> Their tones again ring on my startled ear,
> As I awake from fever-troubled dream.
> My lips are parch'd, my frame is tir'd and spent,
> For I have rac'd o'er hot and sandy plains,
> And I have climb'd up steep and horrid cliffs;
> Plung'd desperate in the dark and rapid stream,
> And leap'd o'er chasms where one false bound were death,
> Whilst the loose soil hath shiver'd 'neath my feet.
> Monsters, whose likeness waking eye ne'er saw,
> Changing each moment both in shape and size—
> Now shooting out to most gigantic height,
> Then again shrinking to a dwarfish mould,
> With features varying like a storm-blown vane,
> And in their every aspect loathsome, foul,
> Demons and fiends, hideous in mien and form,
> Have follow'd hot and closely in my track,
> Turning the air to poison with their breath,
> And howling in mine ears loud shrieks of hate.
> Now whilst my mind is scarcely dispossess'd
> Of the wild phantoms of my dreadful dream,
> Again I hear a loud and piercing shriek,
> And bitter curses borne upon the wind;
> Words hiss upon mine ear, whose very sound
> Strikes on the mind like to a poison'd shaft,

Wounding and shattering pure and virtuous thoughts.
The words are breath'd by lips which God design'd
Should utter only syllables to bless,
And soothe man's heart, as oil the billowy sea:
'Tis woman's voice that mingles with the blast—
Fierce imprecations from a female tongue,
And passionate bursts of scorn and reckless rage,
And impure thoughts in horrid language drest,
Like pestilential taint, pollute the night,
Blent with some drunken ruffian's hoarse deep oath,
Perchance the prelude to a fearful blow.
Oh, most revolting and debasing thought,
That she who should grow up our light and guide,
Whose mind should glass all chaste and holy joys,
Should be herself by wandering lights misled,
Till the bright mirror of her once pure soul,
Mildew'd by sin, should be all blotted o'er,
Distorting every image it reflects.—
The sounds have fled—I court again repose:
Than such reality more welcome sleep,
Throng'd though it be with angry, vision'd fiends.

'Tis true, yet pity 'tis it is so true, that in the central and crowded streets of our large towns, the temples and victims of intemperance are the most prominent and disgraceful objects which meet the traveller's gaze. The next part of the poem opens with the following powerful and graphic sketch of that upas tree of English society, the gin palace:—

I stand within a wide and lofty room,
Whose roof is fretted o'er with rare device,
Rich with the painter's and the gilder's art;
The walls are cover'd with full many a scene
Of love, romance, and war, on land and sea;
Mirrors of price reflect the gazer's form,
And pillars bright, and burnish'd chandeliers,
And moon-like lights shed brilliance over all.
The place might be some temple of delight,
Form'd to give joy to proud and wealthy man;
But 'tis accurs'd—and I could almost deem
The lamps were demon-heads that call'd to sin,
Or lights that lead to darkness and despair—
The pictur'd walls seem dabbled o'er with blood,
Drain'd from the fountains of the human heart.
Look on the inmates of that splendid place!
With sunken eyes, and cheeks emaciate,
And forms envelop'd in foul rags, not clad,
They crowd around, and ask the drink of death—
The drink of poverty, disgrace, and shame.
The glittering, gorgeous casks are rang'd around,
Mark'd with the names of various deadly draughts;
Some sweet to taste, in operation slow;
Others strong, burning, maddening, swift—all sure.
Behold yon female, young, but worn and wan,
With swimming eyes and inarticulate speech,
The widow of a drunkard—she did seek
Comfort from that which all her hope destroy'd—
To drown her sorrows in the liquid fire
That flames and sparkles in the crystal glass—
That scorching lava of the human soul,
Which bears more ruin, in its burning tide,
Than e'er was vomited from out the jaws
Of those terrific mountains which have whelm'd
The pride of cities with their horrid spawn.
Look on yon figure, grim'd and sear'd with toil—
Gone is the self-esteem which once was his,
Bas'd on his strength of limb and skilful hand;
No more with swelling heart he thinks of home,
And of his household treasures boasting speaks;
No more with joy he views his children's forms,
And hears their prattle with a fond delight;
No more they come when sounds his welcome voice,
And cling around him with hilarious shouts;
No more they list, with anxious ear, the clock
To tell the hour which brought their parent home,
Whilst at the sound their mother's beaming eyes,
And pleasant smiles, illum'd her quiet face,
As quick aside her work she threw, and rose,
With busy action, to prepare the meal,
The simple meal, which cheer'd the son of toil.
That home for him hath lost its wonted charm;
Of household treasures he no more can boast—
His children's forms are cloth'd in ragged garb,
Their youthful cheeks have lost their roseate hue,
And at his voice in tears they trembling fly;
Instead of fond caress descends a blow,
And reckless curses stop their cries for food.
With haggard cheek his suffering trembling wife,
The cheerful evening meal no more prepares—
An empty cupboard mocks and grieves her heart;
And even if the means were hers to spread
The fare of old before her husband now,
Too well she knows the drunkard's taste would spurn
The simple beverage with an oath of scorn.
Away with thought!—fill high the glass again!
The demon-palace hath a blaze of light,
And crowds of victims quaff the drink of death;
Some grasp each other's hands in maudlin mood,
And vow eternal friendship, which endures
The draining of another glass, and then
The friends are turn'd to fierce and bitter foes,
And blows are interchang'd, and words of hate.
Some in the ears of heedless strangers breathe
The secrets they had treasur'd up for years;
Some scatter round, with hands profuse, the coin
Which is not theirs to spend—they dream not then
Of stony prison walls and gloomy cell,
Ere long to be their portion, or perchance
A dreary exile to a convict's home,
Where they must live in chains a life of toil.
Away with thought!—it is a glorious scene,
At which the fiends might clap their hands for joy,
And hold in hell a feast to celebrate
The happy tidings that a host of guests
Were paving for themselves a broad highway
O'er which, with headlong and infuriate speed,
They might rush madly, in uncheck'd career,
To the eternal regions of the damn'd.
There beauty without virtue stalks about,
The painted herald of her own disgrace,
Making strange mockery at her fallen state,
Her lips polluted with foul words of crime,
And chang'd the very nature of her sex.
There is the mother with her shrivell'd babe,
Pouring the poison in its crying mouth;
There is the beldame, with a trembling hand,
Lifting the potion to her blacken'd lips;
There is the beggar, spending dol'd-out alms
With a free spirit and a liberal hand;
There is the lurking thief, with wandering look,
Strengthening his courage for the nightly prowl—
Away with thought!—it is a glorious scene!

As an appropriate counterpart to this horrid scene, we have the melancholy prison van, with its guilty inmates, many of whom entered their downward career of infamy and sorrow through the portals of the gin palace, and painful as their contemplation may be, the poet and the painter should continue to present these revolting twin-pictures to public gaze, until the entire community loathe and cast out the accursed system by which selfish men are licensed to poison the fountains of public morality, and to spread ruin and desolation through the masses of society. Our space prevents us entering further into the merits of this interesting volume, but we propose returning to it at an early opportunity.

## Original Poetry.

### TO MY WESTMORELAND HOME.

BY MRS. CAULTON.

Home of my earlier years!—the thoughtful time
Of evening twilight brings unto me now
The cheerful music of thy sweet bells' chime,
Thy quiet and thy beauty; to thee bow
My gratitude and love; faint must memory be
Ere my heart turns forgettingly on thee!

Home of the crag and hill!—where trickling streams
Well forth from old grey rocks; where the wild bird
Breaks the lake's stillness with her wetted wing;—
Of moor and fell, where only sounds are heard
Of Nature's own; the insect's hum, the plover's cry,
That riseth in the air complainingly.

Thine are the hills, the soft green sloping hills,
That at the sun's departure lure his beams
To linger on their summits; thine, the rugged scaur
Rough rising, till like castled pile it seems;
And the clear bubbling brooks, whose merry call
Is answered by the leaping waterfall.

Oh, home beloved and beauteous! thou wert mine
'Mid the rich gifts of those most golden years,
When girlhood springs to woman; when the heart
First feels its power, its love; its very fears
Powerless to wound; life had not then been cast
In cloud and gloom, by sorrows of the past.

Holy and pure the love that dwelt with thee,
Shedding its gentle influence day by day
On all around; strengthening the feeble heart,
And dropping comfort in the poor man's way;
Bright was the lamp that burned aye with thee,
The light of universal charity.

And for all this I bless thee, yea, for more,
For the rich thought, the high pure heart and strong,
The intellectual wealth that fires the soul
With its own glory,—these to thee belong,
And in my song, if aught of power there be,
Its first inspirings came to me from thee.

And now amid the city's hum and toil,
'Mid the rough strivings of our daily way,
Doth the sweet influence of thy teaching still
About my heart retain its gentle sway;
And when my children pray beside my knee,
Riseth an orison for the loved with thee.

Sweet home, farewell!—at least in song, farewell,
But not the memory of thy happiness;
True is the love that 'neath my roof doth dwell,
And children cling around with soft caress;
Yet still, amid the visions of the past,
Lingers a dream of thee, the loveliest, last.

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CHARACTER OF HOBBES.—He was frank, civil, and communicative of what he knew,—a good friend, a good relation, charitable to the poor, a great observer of equity, and had no desire of gathering wealth. "This last quality," says Bayle, "is a favourable prejudice for the goodness of his life." For a man who had lived so long (till ninety-one) his reading was inconsiderable. He said himself, if he had bestowed so much time on reading as other men of letters, he should have been as ignorant as they!

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PRIDE.—Pride has, of all human vices, the widest dominion; it appears in the greatest multiplicity of forms, and lies hid under the greatest variety of disguises; disguises which, like the moon's *veil of brightness*, are both its lustre and its shade, and betray it from others, though they hide it from ourselves.

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THE FARTHER IN THE DEEPER.—Alderman Faulkner, in his journal, announced the accouchment of "*her* grace the *Duke* of Dorset." Next day it was thus corrected:—For *her* grace the *Duke* of Dorset, read *his* grace the *Duchess* of Dorset."

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The true prop of good government is opinion; the perception, on the part of the subjects, of benefits resulting from it; a settled conviction, in other words, of its being a public good. Now nothing can produce or maintain that opinion but knowledge, since opinion is a form of knowledge. Of tyrannical and unlawful governments, indeed, the support is fear, to which ignorance is as congenial as it is abhorrent from the genius of a free people.—*Robert Hall.*

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Lord Kelly had a very red face; "Pray, my Lord," said Foote to him, "come and look over my garden-wall; my cucumbers are very backward."

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GOOD QUALITIES.—I have known some men possessed of good qualities which were very serviceable to others, but useless to themselves; like a sun-dial on the front of a house, to inform the neighbours and passengers, but not the owner within.—*Swift.*

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MIRTH.—Harmless mirth is the best cordial against the consumption of the spirits; wherefore jesting is not unlawful, if it trespasseth not in quantity, quality, or season.—*Fuller.*

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At twenty years of age, the will reigns; at thirty, the wit; and at forty, the judgment.—*Gratian.*

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